



Fork sensors WFL

WFL120-40B416



Model Name > [WFL120-40B416](#)
Part No. > [6036827](#)



Illustration may differ

At a glance

- Very precise laser beam (Class 1 laser)
- Simple and accurate adjustment via teach-in
- Fast response time (max. 100 µs)
- Minimum detectable object size of 0.05 mm
- PNP and NPN switching output
- Light/dark switching function
- 21 different models with different fork widths and depths
- Rugged, IP 65 aluminum housing

Your benefits

- A highly precise laser beam ensures consistent measurement accuracy along the entire measuring range and reliable detection of the smallest objects
- A visible laser light spot enables easy alignment and fast adjustment
- Reliable and simple setting via teach-in ensures high process reliability
- A wide range of different fork sizes increases installation flexibility
- The aluminum housing meets all requirements for use in harsh industrial conditions



Features

Functional principle:	Optical detection principle
Fork width:	120 mm
Fork depth:	42 mm
MDO ¹⁾ :	0.05 mm
Label detection:	-
Light source:	Laser, Class 1, 670 nm
Adjustment:	Teach-in
Output function:	Light/darkswitching, selectable via button

¹⁾ Minimum detectable object

Mechanics/electronics

Supply voltage Vs ¹⁾ :	DC 10 V ... 30 V
Ripple ²⁾ :	< 10 %
Power consumption ³⁾ :	40 mA
Switching frequency ⁴⁾ :	10 kHz
Response time ⁵⁾ :	100 µs

Stability of response time:	$\pm 20 \mu\text{s}$
Output type:	NPN: HIGH = approx. V_S / LOW $\leq 2 \text{ V}$ PNP: HIGH = $V_S - \leq 2 \text{ V}$ / LOW approx. 0 V
Switching mode:	PNP/NPN
Output current I_{max} :	100 mA
Initialization time:	100 ms
Connection type:	Connector M8, 4-pin
Ambient light safety:	Sunlight: $\leq 10,000 \text{ klx}$
Protection class ⁶⁾ :	III
Circuit protection:	V_S connections reverse-polarity protected Output Q short-circuit protected Interference suppression
Enclosure rating:	IP 65
Weight:	Ca. 36 g ... 160 g ⁷⁾
Housing material:	Aluminum

¹⁾ Limit values, reverse-polarity protected, operation in short-circuit protected network, max. 8 A ²⁾ May not exceed or fall short of V_S tolerances ³⁾ Without load ⁴⁾
 With light/dark ratio 1:1 ⁵⁾ Signal transit time with resistive load ⁶⁾ Reference voltage DC 50 V ⁷⁾ Depending on fork width

Ambient data

Ambient temperature ¹⁾ :	Operation: $-20 \dots 50 \text{ }^\circ\text{C}$ Storage: $-30 \dots 80 \text{ }^\circ\text{C}$
Shock load:	According to EN 60068-2-27
UL File-No.:	UL No. NRKH.E191603 & cUL No. NRKH7.E191603, CDRH-conform

¹⁾ Do not bend below $0 \text{ }^\circ\text{C}$

Technical drawing of a mechanical part with dimensions in mm and inches. The drawing shows a side view of a component with a central rectangular section and two circular features on the left. Dimensions are provided in mm (top) and inches (bottom). Key dimensions include: overall width 10 (0.39), overall height 19 (0.75), and various internal offsets and radii. The part is labeled with 'B' and 'C' for specific sections.

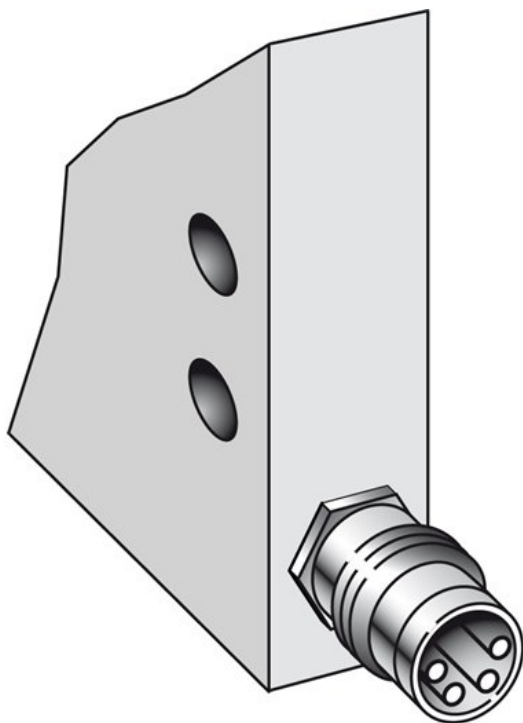
Dimensions in mm (inch)

	A	B	C	C1
	Fork width	Fork depth		
WFL2	2 (0.08)	42/59/95 (1.65/2.32/3.74)	14 (0.55)	13.5 (0.53)
WFL5	5 (0.20)	42/59/95 (1.65/2.32/3.74)	14 (0.55)	15 (0.59)
WFL15	15 (0.59)	42/59/95 (1.65/2.32/3.74)	27 (1.06)	13.5 (0.53)
WFL30	30 (1.18)	42/59/95 (1.65/2.32/3.74)	42 (1.65)	13.5 (0.53)
WFL50	50 (1.97)	42/59/95 (1.65/2.32/3.74)	51 (2.01)	24.5 (0.96)
WFL80	80 (3.15)	42/59/95 (1.65/2.32/3.74)	81 (3.19)	24.5 (0.96)
WFL120	120 (4.72)	42/59/95 (1.65/2.32/3.74)	121 (4.76)	24.5 (0.96)

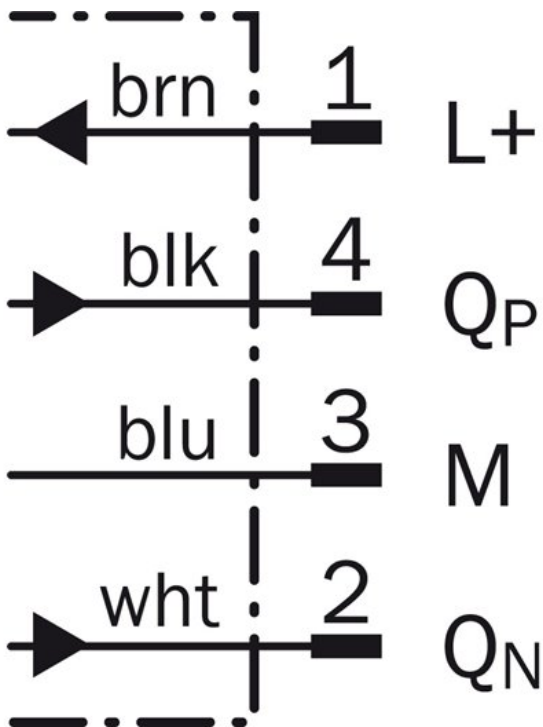
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- Diagram of a control panel with numbered callouts 4 through 6. Callout 4 points to the top left corner. Callout 5 points to the top right corner. Callout 6 points to the right side of the panel, between the '+' and '-' buttons. The panel contains two circular buttons at the top, a '+' button, a '-' button, and three rows of text: $\pm 1s T_I$, $- 1s T_{II}$, and $\pm 3s$ with a lock icon, followed by $\pm L/D$ and $6s$.

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Connection type



Connection diagram



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